

**REMARKS****Introduction**

The concept of providing a riser clamp having a novel specified range for the diameter of the substantially hemicylindrical sections is at the core of the present invention. There is no teaching, suggestion or motivation in the applied references directed to this concept and the specific range recited. The rejections are based on obviousness rather than anticipation because this feature is missing from the applied references. The applied references also do not operate in a manner consistent with the novel feature. As such, there is no disclosure, suggestion or motivation for the claimed clamp and the references cannot support a *prima facie* case of obviousness. This is the essence to be gleaned from grinding through the details below.

In this Response, rejected independent claims 1, 4 and 8 are specifically addressed. The Official Action rejected claims 1, 3, 4, 6, 8, 10, 11 and 13 through 15 as obvious over Modrovich, U.S. Patent No. 4,765,106. Claims 2, 5 and 9 were rejected as obvious over Modrovich in view of Rahe, U.S. Patent No. 4,733,471. Claims 7 and 12 are rejected as obvious over Modrovich in view of Evans, U.S. Patent No. 3,682,422.

**The Invention**

All of the claims specifically recite a substantially hemicylindrical section of each of the two bars forming the riser clamp. Uniquely, these substantially hemicylindrical sections are recited as each defining "an inside diameter smaller than the specified outside diameter by not to exceed 5% with the straight sections to either side in juxtaposition. The specified outside diameter is that specified for any pipe to be

received in the clamp with standard such pipe sizes being disclosed in the DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT on page 3 of the specification.

The range presented, "smaller than the specified outside diameter by not to exceed 5%" under the condition of the attachment sections being juxtaposed, affords a wholly different use of such clamps. The feature is not a matter of design choice. As emphasized in the specification, CPVC pipes are fragile as compared with steel pipes. They also have smooth outer walls. The gripping of such pipes by standard riser clamps is highly problematic.

Comparing standard riser clamps with those of the present invention, standard riser clamps, those intended to grip a vertically extending steel pipe, are designed such that the specified outside diameter of the pipe with which the clamp is to be used is substantially larger than the hole created by the clamp. The concept is to have the opportunity to tighten down the clamp to a much greater extent about the pipe. In doing so, gaps between the two bars are maintained such that substantial clamping can be achieved.

With CPVC, conventional clamping would result in fracture of the pipe. To achieve the appropriate balance of clamping force without fracture of the pipe, a very specific relationship is created such that the straight sections of the bars come together to prevent further tightening. Thus, the compression of the CPVC pipe cannot exceed that which is imposed by the 5% smaller inner diameter. Consequently, the range of relative diameter is novel and the operation specifically providing a certain degree of compression without allowing excessive compression is novel.

The range from smaller than the specified outside diameter to not to exceed 5% of the specified outside diameter provides a specific range where clamping is achieved to prevent vertical slippage of the riser pipe and yet specifically avoids fracture no matter how hard the fasteners are tightened.

### **Obviousness Rejections**

Looking first to Modrovich, the Official Action acknowledges a failure to teach the novel relationship:

Modrovich is silent about whether the inside diameter of the hemicylindrical sections of the two bars is smaller than the outside diameter by not to exceed five percent with the first straight section juxtaposed with the second straight sections, respectively.

Upon a careful review of Modrovich it is also true that there is no expressed intention that the device support a vertically oriented riser. Rather, a horizontal system is designed where the employed clamps provide for free movement of the enclosed pipe.

Reference is made to column 1, lines 48 *et seq.*:

To this end, the conduit preferably encloses the pipe, but is adapted to enable the pipe to freely slide into a conduit, preferably of circular cross-section.

Where retention is desired in the Modrovich patent, set screws are illustrated.

### **The Standard**

The U.S. PTO has established the standard for a *prima facie* case of obviousness in MPEP §2142, which states in relevant part:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim

limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In *re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 § 2143.03 for decisions pertinent to each of these criteria.

### **Application of the Standard**

The first and third criteria for a *prima facie* case of obviousness against all of the claims of the application are not supported by Modrovich. There is no teaching or suggestion to create the specific range of diameters afforded by the present claims. The teachings of Modrovich in fact contradict such a feature by providing for clearance rather than interference, as quoted above. The valuable purpose for constraining the range and limiting the ability to tighten the clamp about a riser is described above. Modrovich does not address that advantage and, therefore, does not provide motivation for the claimed diametrical range either. The first criteria for a *prima facie* case of obviousness is not supported by Modrovich.

There is also no teaching or suggestion of the specific range of diametrical relationship, as is acknowledged in the Official Action itself. The Official Action further fails to assert any teaching or suggestion of the use of such a limited range and the prevention of further tightening. The third criteria for a *prima facie* case of obviousness is also lacking from the reference.

### **Rejection Under 35 U.S.C. 112**

Claims 1 through 7 and 15, all of which depend from independent claims 1 and 4, are rejected as unclear for the reason that the presence of the fragile pipe (recited in claim 8) is questioned. Claims 1 and 4 do not include the fragile pipe. The fragile pipe is recited in the preamble as providing only a function for the riser clamp. In the body of

claims 1 and 4, there is no mention of the pipe but only the use of a measurement to define a size of the hemicylindrical sections. It is what the clamps are to be applied to that defines the term. If sized for a nominal 2" diameter pipe, with the requisite diametrical range, infringement would be unambiguously established.

Applicant asserts that there are a number of points supporting this understanding that claims 1 and 4 do not include the riser. First, these claims are claims which define a device through a list of elements. These elements, two bars and fasteners, are appropriately recited in true antecedent basis. Reference is made to 37 C.F.R. 1.75(i):

(i) Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation.

The listed two bars are then further described by reference to a specified diameter to which the claim is designed to accommodate.

The plain English meaning of the claim includes a number of elements under the term "comprising". However, "the specified outside diameter" uses the distance measurement as defining the size of the hemicylindrical section. The pipe is not separately listed as an element under the term "comprising".

The context of the disclosure also supports the recognition of the clamp as distinguished from the riser. In effect, the clamp is employed with any amount of pipe. With the exception of the clamp, the support for the clamp and the pipe supported are just the environment in which the clamp is employed in claims 1 through 7 and 15.

An analogous situation referenced in *In re Stencel*, 828 F.2d 751, 754, 4 USPQ 2d 1071, 1073 (Fed. Cir. 1987) is referenced in MPEP § 2111.02:

The claim at issue was directed to a driver for setting a joint of a threaded collar, however the body of the claim did not

directly include the structure of the collar as part of the claimed article. The Examiner did not consider the preamble, which did set forth the structure of the collar, as limiting the claim. The Court found that the collar structure could not be ignored. *While the claim was not directly limited to the collar, the collar structure recited in the preamble did limit the structure of the driver.* “[T]he framework – the teachings of the prior art – against which patentability is measured is not all drivers broadly, but drivers suitable for use in combination with this collar, for the claims are so limited.”

[emphasis added]

Thus, as in *In re Stencel*, the specified diameter is not specifically included and neither is the riser itself in claims 1 through 7 and 15, but rather the clamp is understood to be not all clamps broadly, but a clamp suitable for use in combination with a riser of a diameter as specified for use with the clamp.

With the foregoing assertions also now part of the record, it is believed that claims 1 through 7 and 15 are appropriately formed and without ambiguity. Consequently, a Notice of Allowance is earnestly solicited.

### **Objection to “CPVC”**

The Specification has been amended to reflect what is well known to those of ordinary skill in the art, that CPVC is chlorinated polyvinyl chloride.

### **CONCLUSION**

All of claims 1 through 15 include the diametrical range for the inside of the hemicylindrical sections of the clamp bars. This range is expressed in terms of specified riser diameter. None of the asserted references deal with that range, suggest that range or are motivated to create a mechanism requiring that range. This relationship provides for an appropriate locking of fragile pipe without fracture and

without the capability for the installer to excessively compress the clamp. Consequently, Modrovich and the other applied references are unable to support a *prima facie* case of obviousness.

Independent claims 1 and 4 are provided in a specific structure which does not include the riser appearing in the preamble only. A specification of the riser diameter is part of claims 1 through 7 and 15 which restricts the hemicylindrical section of each bar.

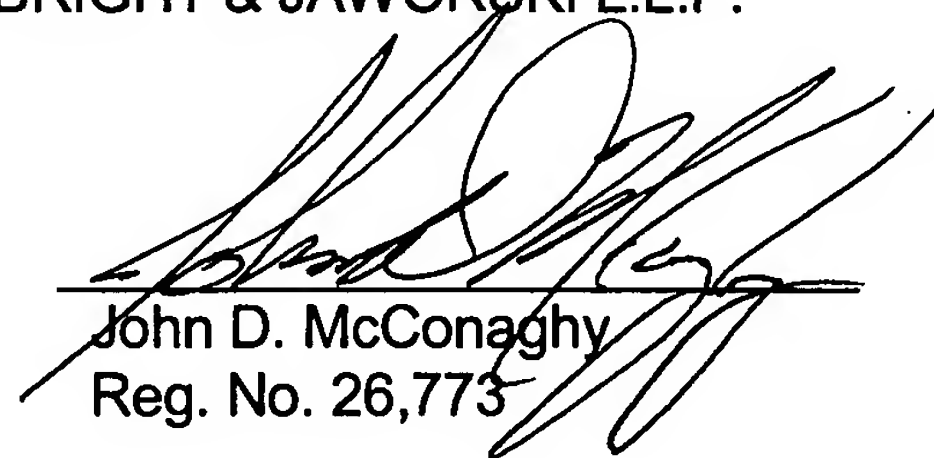
In view of the foregoing, it is believed that the claims contain unobviousness subject matter and the application is in condition for allowance. Therefore, a Notice of Allowance is earnestly solicited.

Respectfully submitted,

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September 15, 2005

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